

WHAT WE CLAIM IS:

1. A portable image display having data communication means, which comprises a speaker portion for catching sounds, a microphone portion for picking up sounds, an image display
5 device and a viewing optical system for forming an exit pupil to view an image displayed on the image display device and having a generally positive refracting power, wherein:

said viewing optical system is constructed of at least one prism member comprising an entrance surface through which
10 a light beam emanating from said image display device is entered into a prism, at least one reflecting surface at which said light beam is reflected within the prism and an exit surface through which said light beam leaves the prism wherein said at least one reflecting surface has a curved
15 surface shape for imparting power to a light beam, said curved surface shape being defined by a rotationally asymmetric surface shape capable of making correction for decentration aberrations.

2. A portable image display having data communication
20 means, which comprises an image display device and a viewing optical system for forming an exit pupil to view an image displayed on the image display device and having a generally positive refracting power, wherein:

said viewing optical system comprises a prism portion
25 and a reflecting portion having a reflecting surface,

said image display device and said prism portion are received in a body of said portable image display,

said reflecting portion is held by a separate frame member, and

said frame member is receivable in said body.

3. A portable image display having data communication
5 means, which comprises a speaker portion for catching sounds, a microphone portion for picking up sounds, an image display device, a viewing optical system for forming an exit pupil to view an image displayed on the image display device and having a generally positive refracting power, an image pickup
10 device and an image pickup optical system for forming an image on the image pickup device, wherein:

said viewing optical system is constructed of at least one prism member.

4. A portable image display having data communication
15 means, which comprises a first image display device having a pixel pitch P_m , a second image display device having a pixel pitch P_n and a viewing optical system for forming an exit pupil to view an image displayed on the first image display device and having a generally positive refracting power, and
20 satisfies the following condition (1):

$$0.01 < P_m/P_n < 0.8 \quad \dots (1)$$

5. A portable image display having data communication means, which comprises a data storage means, a means for indicating the end of data reception, an image display device
25 and a viewing optical system for forming an exit pupil to view an image displayed on the image display device and having a generally positive refracting power.

6. The portable image display according to any one of claims 2 to 5, wherein:

said viewing optical system comprises at least one prism member comprising an entrance surface through which a light beam emanating from said image display device is entered into a prism, at least one reflecting surface at which said light beam is reflected within the prism and an exit surface through which said light beam leaves the prism wherein said at least one reflecting surface has a curved surface shape for imparting power to a light beam, said curved surface shape being defined by a rotationally asymmetric surface shape capable of making correction for decentration aberrations.

7. The portable image display according to claim 5, wherein the prism member used for said viewing optical system comprises at least two surfaces for reflecting a light beam within a prism.

8. The portable image display according to claim 7, which comprises at least two surfaces for reflecting a light beam within the prism, said at least two surfaces being each defined by a rotationally asymmetric surface shape.

9. The portable image display according to any one of claims 1 to 4, which further comprises a data storage means.

10. The portable image display according to claim 9, wherein said storage means is built in the body thereof.

11. The portable image display according to any one of claims 1 to 5, which further comprises a light source for

illuminating said image display device and an illumination optical system for illuminating said image display device.

12. The portable image display according to any one of claims 1 to 5, wherein when an image on said image display device is viewed, said image is turned on the basis of whether the body of said portable image display is held by the right hand or the left hand.

13. The portable image display according to any one of claims 1 to 5, wherein said microphone portion for picking up sounds extends from the body of said portable image display.

14. The portable image display according to any one of claims 1 to 5, wherein said speaker portion for catching sounds extends from the body of said portable image display.

15. The portable image display according to claim 1, wherein a viewing unit including said viewing optical system is mechanically coupled to a body thereof, and said viewing optical system is receivable in said body.

16. The portable image display according to claim 1 or 2, wherein when said viewing optical system is received in said body, a surface thereof through which a light beam emanating from said image display device leaves is concealed from the outside.

17. The portable image display according to claim 2, wherein the reflecting surface of said reflecting portion has a curved surface shape for imparting power to a light beam, said curved surface shape being defined by a rotationally asymmetric surface shape capable of making correction of decentration aberrations.

18. The portable image display according to claim 4,
which further satisfies the following condition (2):

$$0.01 < S_m/S_m < 0.5 \quad \dots (2)$$

where S_m is a display area of said first image display
5 device, and S_n is a display area of said second image display
device.

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